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ABSTRACT

The purpose of this 3-year data gathering and analysis project is to specify ways in which strategic instruction is conducted in classrooms, including how teachers adapt instruction to their curriculum and how students adapt instruction to fit their purposes for and methods of writing. The purposes of the writing instruction on which the study is based are to change students' representation of their writing tasks and to provide guided practice in planning and revising after feedback. Research sites are Roundtown High School (a predominantly white, middle class school located in a university town) and the Riversend School on the Sun reservation. By comparing the two groups and their decision-making in writing and revising, the study hopes to discover how culture influences strategic learning, and whether the models for collaborative planning and revising after feedback, upon which the writing instruction is based, are applicable to diverse populations. Data are gathered using cognitive process tracing (which includes stimulated recall and concurrent verbal protocol) and ethnographic techniques (audio/videotaping of classes, focused observations, and interviews). Preliminary findings highlight the cultural chasm that divides the students in Roundtown High School and those on the reservation. Four questions have surfaced that reveal some of the characteristics of the context of learning; these have to do with concepts of authority; a research effect (Native American subjects' reactions to the presence of tape recorders and camcorders in the classroom); pedagogical issues; and motivation. (Forty-four references are attached.) (RS)

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Adapting Writing Instruction in Two Classrooms: An In-progress Research Report

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Adapting Writing Instruction in Two Classrooms

An In-Progress Research Report

Part One: Introduction

This paper reports the progress of a three-year study of a writing instruction being implemented in an Indian Reservation school and a rural public high school. The study employs process-tracing and ethnographic methodologies and gathers a range of data at both sites. Part one of this report introduces the study, its research questions and design.

Part two of this paper is an in-progress report that describes findings related to the cultural context of learning to write.

Educational Problem and Significance

Literacy problems are nowhere more acute than among minority students. While special programs such as bilingual education address primarily oral speech and reading, relatively few programs focus on writing. The low incidence of writing in the homes and communities of minority students (Díaz, Moll & Mehan, 1986) produces a context which challenges traditional expectations and approaches to writing instruction. This context also mandates an intensification of efforts to develop instructional models that accommodate the literacy needs of minority students. These needs include support in developing strategies for decision-making and a sense of self worth and cultural identity. Instruction, then, must fulfill a dual purpose: (1) address the needs of students to become self-regulated writers, and (2) provide a culturally responsive classroom setting where strategic learning can take place.

The particular minority group we have chosen to study presents acute needs for effective writing instruction. Native American students compose the largest dropout population in the United States (Bennet, 1990), and less education per capita than any other minority group in the nation (Dinnerstein, Nichols & Reimers, 1990). Their relative isolation, especially in reservation schools, presents a special challenge to

create culturally responsive literacy instruction. For this reason, we have selected a reservation high school which enrolls 98% Native American students for part of our study.

The need for effective writing instruction is not limited to minority students. For this reason we also include in our study, secondary school students in a university town located in a rural area. By comparing the two groups and their decision-making in writing and revising, we hope to discover (1) how culture influences strategic learning, and (2) whether the models for collaborative planning and revising after feedback, which compose our writing instruction, are applicable to diverse populations. In studying these two representative populations, we hope to ensure wide applicability of an emerging model of strategy instruction in American schools.

The focus of our study is the implementation of a writing instruction grounded in the Flower-Hayes model (1980a), which identified two aspects of writers' representations as crucial: planning and revising. The instruction that will be described in this paper is based on later developments of this work: collaborative planning (Flower, 1989), and revising one's own text after feedback (Sitko, 1989).

The two areas of planning and revising have been identified in other writing research as important to instruction. Inexperienced writers typically do not plan beyond the general goal of displaying topic knowledge (Bereiter & Scardamalia, 1987). Research shows, however, that most school writing demands only display of knowledge for a teacher-examiner (Applebee, 1984; Britton et al., 1975). With little need to construct other purposes, audiences, or genres, it is not surprising that students show little evidence of making decisions about these elements. From a cognitive and decision-making perspective, students thus fail to generate alternatives at the point where these could be most useful in shaping a text.

Likewise, inexperienced writers do not resemble experienced writers during the process of revising a text composed by another (Hayes, Flower, Schriver, Carey &

Stratman, 1987). They do not detect text dissonances nor diagnose text problems in ways which would help them to access strategies they have presumably learned. Feedback about their texts should in theory help inexperienced writers improve a text. Indeed, the prevalence of this pedagogical method indicates that teachers believe that providing feedback is useful. Yet research indicates that feedback may actually function to distract and confuse rather than aid a student writer. Some students interpret feedback as an indicator of social standing in the classroom (Berkenkotter, 1984; Freedman, 1987). Others represent it as a problem to be dealt with in itself, disconnected from text (Hayes and Daiker, 1984; Sommers, 1980). In sum, classroom research about how students use feedback corroborates what cognitive process research predicts: students will act on the problem that they construe. Potentially, however, feedback could provide students with alternative interpretations of their words and thereby help them to alter their mental representations of text meaning (Nold, 1981). Feedback could potentially function as "knowledge of results" to help students test the outcomes of their planning decisions.

One hopeful line of inquiry that addresses problems such as these is instruction in strategies for particular domains and specific tasks. This instruction is normally derived from research using cognitive process tracing methods to identify differences among experts and novices. To date, instruction in verbal learning has primarily addressed the area of text comprehension. A body of research in "metacognition" shows consistent gains in the three components of strategic knowledge: awareness or the detection of text dissonances, regulating through self-questioning, and monitoring (Haller, Child & Walberg, 1988).

Ethnographic research provides another line of inquiry that examines the problems of these learners. Ethnography proceeds to form "grounded theories" (Glaser & Strauss, 1967) by extracting from empirical evidence "relevant predictions, explanations, interpretations, and applications" (Glaser & Strauss, 1967, p. 1).

Ethnography is particularly effective in producing descriptions which lead to an understanding of complex phenomena such as the relationship between culture and learning. Through ethnographic methodologies, culture-specific patterns which may influence the development of cognitive processes are identified and can be integrated into the design of instruction. The work of Díaz et al. (1986) exemplifies this function of ethnography. Díaz and his colleagues created a series of writing modules which were implemented by teachers in a predominantly Hispanic high school. The design and content of the modules were based on ethnographic data gathered in the homes and communities of the students. By incorporating culturally relevant themes and activities in the writing instruction, the teachers minimized the "constraining influence" of students' difficulties with language and empowered them to use their interests and life experiences in the exercise of writing. This application of Vygotsky's theory (1978) of the close connection between learning and social interaction inspired our decision to use interactive models of producing and revising text and to examine the socio-cultural context of the classroom. as well as student responses to writing instruction.

Philips (1983) provides another example of the contribution that ethnographic methodologies make to the design of effective instruction. In her classic study of Warm Springs Indian Reservation classrooms, Philips discovered that Native American children did not perform well in the structures of participation typically found in American classrooms, e.g. teacher-led discussions or contexts which required individual competition. Instead, the students performed better when patterns of tribal interaction which emphasize cooperation and peer instruction were present in the classroom.

Heath (1983, 1986) provides yet another example of the complex link between culture and learning in her study of the way language is learned in three different Southern communities. Her research provides evidence that instruction must take into account learners' prior experiences with language, oral and written. Because students need to integrate instruction into their experience with language, cognitive dissonance

occurs in those areas where classroom discourse diverges from home discourse, for example, question and answer patterns.

The Instruction in Planning and Revising Text

The purposes of the writing instruction on which this study is based, are 1) to change students' representation of their writing tasks, and 2) to provide guided practice in two key areas: planning and revising after feedback.

In designing our instructional application we make certain assumptions about students and teachers. The first assumption is that, given knowledge of alternatives, students will make more informed initial choices about writing their texts. The second is that, given knowledge of how readers interpret their texts, students will make more informed revisions. By choosing to locate the instructional model in the classroom, we assume that teachers are situational decision makers who plan and adjust instruction according to their perception of student need (Bolster, 1983; Clark & Peterson, 1986; Peterson, 1988).

Our instruction addresses two critical decision points in the writing process: planning a text and revising after feedback.

Collaborative Planning

This method of planning a text (Flower, 1989) involves two strategic elements. The first is a visual representation of planning decisions called "blackboards" (see Figure 1). The blackboards represent not only "topic knowledge," the primary focus inexperienced writers typically bring to a writing task (Applebee, 1986; Britton et al, 1975; Bereiter and Scardamalia, 1987), but also "audience," "genre conventions," and "key purpose" (Flower and Hayes, 1980). The second strategic element involves the nature of the collaboration: attending to the blackboards is guided by a partner who functions as the supporter.

In the instruction, the teacher first explains the "blackboards," using examples from protocols to show how writers explore the elements of *topic information, audience,*

key purpose and text conventions to guide their planning decisions. The teacher then models the process with a student, showing how one partner assumes the role of supporter and questions the writer about information for each element of the "blackboard." The supporter reflects back the writers plans, querying about "empty" blackboards and prompting further planning. Then students pair off and use the method taking turns as writer and supporter. Later, and on their own, students write their texts.

Revising After Feedback

This instructional method of revising one's own text (Sitko, 1992) engages writers in gathering data about how others understand their text and using that information to make decisions about revising (see Figure 2). The method has two principal elements: a model of the decision-making process and a method of gathering data called interpretive reading.

The model of the decision-making process (Sitko,1989) represents to inexperienced writers the number of decisions embedded in revising. In the instruction, students are shown the sequence of decision points between receiving feedback and revising a text. The decisions can be illustrated with examples from verbal protocols. Alternatively, students can discuss examples from their own experience.

Interpretive reading presents students with immediate data about how others understand their words. Although the method can be used in large groups, students typically work in pairs. To demonstrate the method, the teacher models it by role-playing the reader. The task of the reader is to actively verbalize the thought processes involved in comprehension by reading the writer's text aloud, stopping periodically to make a gist of the point of the text and then predicting forthcoming text. Observing this process, the writer hears a reader actively making sense of the words, emphasizing some ideas, subordinating others and perhaps altogether missing important points. At the conclusion of the reading, the writer has important new information about the text,

notably areas that are confusing or problematic. This information forms the content of the decision-making process described above.

Design of the Study

The purpose of our data gathering and analyses is to specify ways in which strategic instruction is conducted in classrooms, including 1) how teachers adapt instruction to their curriculum and 2) how students adapt instruction to fit their purposes for and methods of writing. A focus on decision processes unifies all aspects of the research: the development of materials by the researchers and classroom teachers, the teachers' instruction, the students' learning, and the researchers' data gathering and analyses.

The research design for years one and two of the study is essentially the same. The research sites are two schools serving different populations. Roundtown High School is a predominantly white middle class school located in a rural university town. The participants from Roundtown are experienced secondary science and English teachers and their students. Two secondary teachers, one in science and one in English from Riversend School on the Sun Reservation, also participate with their students in the study.

During planning meetings, the researchers and teacher-participants develop discipline and context-specific writing assignments which grow out of the normal curriculum. While adhering to the instructional model, teachers are encouraged to develop instruction sensitive to cultural variables (Abi-Nader, 1990). The importance of collaborative planning between the teachers and researchers is based on the assumption that teachers will integrate these strategies into their own style of teaching and making situational decisions (Duffy and Rohwer, 1989). They must adapt the instruction to accommodate both their own goals and those of their students. Furthermore, through collaboration with the teacher-participants in the study, we gain important information about culturally responsive instructional strategies they have

already developed. Culturally sensitive instruction is evident as teachers select the content of the targeted tasks, in the participative structures they employ in the classroom, and in the affect level of their interaction with the students.

Important in the design of this study is tracing how students receive and adapt the instruction. This research complements more controlled studies of students' use of strategies. Notably it addresses Brown's (1987) concern that research needs to examine interactive learning in context. She notes that in experimental settings, decisions about strategy construction are likely to be made by the experimenter. In the classroom context, on the other hand, decisions about strategy construction are more likely to be made by the student. Our design addresses this methodological concern by looking equally at the decision processes of teachers and students.

Procedures for Data Collection and Analysis

Consistent with the focus of our study, the design for mapping students' decision-making processes as they plan and revise a text after feedback incorporates two primary methods of data-gathering and analysis: cognitive process tracing which includes stimulated recall and concurrent verbal protocol, and ethnographic data gathering through audio/videotaping of classes, focused observations, and interviews.

Cognitive Process-tracing

Cognitive process-tracing data is used to track student cognitive and decision-making processes. In addition to the audiotaped collaborative planning and interpretive reading sessions, a subset of twelve students, three students per class, record concurrent verbal protocols while writing and revising. These written records are supplemented by the audiotapes to trace the information students had available as well as their decisions about using it. The process-tracing data (audiotapes of stimulated recall and concurrent verbal protocols of the 12 selected students) are parsed by episode and coded according to categories determined inductively. For a product analysis, student texts are rated by two raters. Two kinds of rating are used: pairwise blind comparison

of drafts before and after feedback and a three-way blind comparison of the students' final texts from each of the three units.

We expect these verbal transcriptions to show how students integrate the strategy with their previous methods, how they use instruction in class and later when writing on their own, and how they use new information in making decisions about both planning and revising. The design also provides for rating student texts in two ways: within-subject comparison of initial and revised drafts, and within-subject comparison of successive final drafts.

Ethnographic Data

Ethnographic data focuses on the classroom context. The six instructions are videotaped and described in observer fieldnotes. Observers might note, for example, the frequency of exchanges, the receptivity of the writer as signaled by body language, the types of questions asked, the types of probes used by the partners, and how students record information for future use. Social patterns may also be observed. If, for example, teachers permit students to choose their partners, social patterns may become evident in student choices. The observers also conduct audiotaped open-ended interviews with students and teachers to gather information about the context of classroom instruction. Observers ask teachers, for example, about their decisions during teaching, such as whether they had to adapt their plan, or what criteria they used to make that decision. The purpose of audio- and videotaping classes is to have a permanent incontrovertible record of events for analysis. Such recordings and observations in field notes are noninteractive data which chronicle a stream of behavior (Goetz & LeCompte, 1984) useful in determining the relationship between the context of the study and targeted episodes - in this case, collaborative planning and revising after feedback. In addition, the videotapes help the investigators integrate data from both verbal and non-verbal sources.

All recordings and fieldnotes are transcribed for coding purposes. The investigators study the transcriptions in order to identify categories of decision-making episodes. Videotapes of classes are coded to indicate episodes that show, for example, how students respond to the task or ask questions for task clarification. These speech events support protocol and recall data by specifying students' representation of the task and response to it in the socio-cultural context of the classroom. Recursive data gathering is used to triangulate qualitative data and discover discrepant cases. Key informants are interviewed and asked to reflect on the content of the audio and videotapes, and to provide their interpretations of the instruction. Qualitative analysis is grounded in the belief that students and teachers are authentic interpreters of their own classroom context (Erickson, 1986). For this reason, they are interviewed and participate in the analysis of the data.

We expect the data to show that although students vary in how they represent the instruction, they will invent methods of practicing it, specifically in how they generate alternative plans. They will also invent ways to elicit feedback to test whether their text has met their purpose. We expect that within-subject comparison of protocols will show increased planning prior to writing, increased use of planning elements during writing, and specific use of feedback to make substantial (sentence-level) changes to text. We expect between-subject analysis to delineate commonalities in how students represent the instructional model. These commonalities will in turn inform our successive revisions of the instructional model.

Furthermore, since we hope to discover whether or not culture influences decision-making and strategic instruction in collaborative planning and revising after feedback, ethnographic data is critical to our investigation. We look for evidence of cultural influences in speech events, participative structures, teacher/student and peer interaction as well as the texts and decision-making patterns the students produce.

Guiding our interpretations of the data are evidences of differences between the two populations, attributions of influence or motivation that reveals culture.

Although two methodologies are used for studying the processes by which teachers design strategy instruction in writing and the processes by which students adapt and use the instruction, the methods are grounded in similar theoretical frameworks of naturalistic inquiry. Throughout the study, data gathering and analytic procedures are complementary.

Part Two: Progress Report on the Study - Semester One

This section of the report will focus on findings from Riversend, the tribal school on the Sun Reservation. During semester one, we observed six sessions of instruction in a tenth-grade biology class and a ninth-grade English class. A session consists of a single class during which a teacher presents or reviews collaborative planning and the students engage in planning in pairs, followed by selected students doing think-aloud protocols; or a single class during which a teacher presents or reviews the interpretative feedback strategy and the students engage in these paired activities followed by selected students doing think-aloud protocols while they revise. In addition to transcripts from these instructional sessions, we have interviews from students and teachers involved in the study, from Mike Aaron, one of the tribe's elders who conducts cultural classes and is counselor for the elementary school children, from the superintendent at Riversend who is a white, middle-aged male in his second year at the school, and from other Native Americans not presently on the reservation. In semester three, we plan to expand these interviews to include parents, tribal council and school board members, and other teachers and non-school members of both communities.

Context: Factors That Shape the Environment for Learning To Write

Context in our study includes situation-specific observations of students and teachers participating in a writing instruction. These situations form the roots from which we branch out to examine the cultural and social milieu of the participants and its

relationship to the teaching and learning of writing. The units of analysis are elements which shape the context for learning to write and are the focus of our search for cultural phenomena which distinguish effective learning strategies for diverse populations. These units of analysis include critical incidents (Evertson & Green, 1986) such as speech events, participation structures, teacher and student adaptations of the writing instruction, and student and teacher reflections on the experience of the writing instruction, which throw light on the effectiveness of the model. Since critical incidents are embedded in cultural and social contexts, their examination will lead to further investigation of the broader domains of student self-concept, teacher beliefs, and perceptions of heritage and cultural influence.

Preliminary Findings

A brief description of the participants in the study reveals the cultural chasm that divides the students in Roundtown High School and those on the reservation. In Roundtown, the students are mainly children of university professors, who are motivated to academic achievement, have family models and family support for school success, and are knowledgeable about school functions (e.g. participation structures, conversation patterns, questioning styles). Some see themselves as writers and describe their parents as people who write books. Writing is an expected and easily accepted part of academic life. Although they are all part of one school community and may have lived in Roundtown for most of their lives, the students typically report not knowing each other well outside of a small circle of friends.

Most of the students at Riversend have spent all their lives on the reservation in a tightly knit community. They are frequent victims of pervasive alcoholism, drugs, and unemployment. They have low achievement motivation, a 30 percent dropout rate, and, although many say they are going to college, actual figures show that less than one percent of graduating students actually enroll in post-secondary educational programs. Absenteeism is high and classes average around eight to ten students. The teaching staff

is 99% white with a high annual turnover. Writing does not have a high priority among the students who see little place in their future for this academic skill. Their papers typically are one page in length; their taped protocols are characterized by long pauses, giggling, and one-word responses compared to the Roundtown students who are voluble, articulate, and generate more complex responses. Some of the Riversend students confided that they write poems and stories for personal reasons - to cope with difficult family problems, to resolve tension, for personal enjoyment. But none shared their work with family or friends. Discussions with the students, with Native American educators outside the reservation, and observations of successful Native teaching strategies indicate modifications in our instruction which may serve to render the model more effective. These may include introducing the writing instruction in a talking circle format giving the students the opportunity to talk about writing in general and the specific writing assignment in particular.

In addition to observations of the participation of Riversend students during the first semester, four questions have surfaced in our reading of transcripts that reveal some of the characteristics of the context of learning. These are concepts of authority, a research effect, pedagogical issues, and social effect.

Authority

In view of the many efforts being made to enculturate young students in their American Indian heritage, we took note of the emphasis on listening to the elders which characterized the counsel of the older Native members of the community. We want to make inquiries into what notion of authority the students have and what their attitudes are toward the elders. We see our writing model as one which gives authority to the students as authors and directs them to seek feedback from peers. We want to pursue this idea by interviewing students and elders to see if this approach sets up conceptual dissonance in the minds of the students. The elders whom we've already interviewed verified our identification of authority as a serious question. Students also identify

authority as an issue, but interviews with the students reveal a typical adolescent rebellion against traditional views. How students perceive themselves in relation to the authority structures and traditions of the tribe may influence their willingness to express themselves in writing.

Research effect

A high percentage of the Native students comment on the presence of tape recorders and camcorders in the classroom. Some resist the use of recording equipment but do participate; a few refuse to be recorded. When asked about this in an interview, one of the elders commented that Native people, especially the elders, view recording equipment as giving them public authoritative voice. They don't like to have their own points of view aired in this way because it may give the impression that they are speaking for the whole community and not just for themselves. Another aspect of the research effect that we want to explore is that some of the students do not like to ask their friends to listen to their papers because they feel it is an imposition on their friend's time.

During semester two, we are following up such leads in our interviews with the students and teachers. Another research effect we want to pursue is the question of objectivity. The students in the reservation school are either related to one another or have known each other since childhood. The white-middle-class students in the second site do not know one another as well and seldom work in small groups in their classes. We want to compare their attitudes and how these affect students' willingness to give each other feedback in planning and revising.

Pedagogical issues

The third issue has to do with pedagogy and concerns the match of assignments to students' own goals for writing. The science teacher, for example, tried to engage the sophomores in reflecting on use of tribal resources. Of the three assignments, this one on forestry was most successful - students were more engaged in the topic and surfaced

opposing points of view on use of timber, preservation of wildlife, and their relationship to the economy. When the freshman English students were given a free-writing assignment, several chose to write about how they got their Indian name. It may be that given a choice, students will choose to write about culture-related topics. We want to pursue this to see what other topics surface in free-choice assignments.

Motivation

A final question we want to explore is one of motivation. Given an opportunity to reshape one science assignment, for example, one tenth grade student decided to write about her future career in accounting, including the importance of math and accounting to the tribe. Riversend regularly invites back students who have established academic or professional careers to speak to students in assembly. Research indicates that motivation is often culture-specific. To develop culturally sensitive models of teaching and learning, it is important to tap this knowledge base and let it shape instruction.

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